Physical Exercise and Functional Fitness of Older Adults in Day Care Center

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BACKGROUND:

The physical and cognitive decline that occurs during aging translates to an inability to carry out daily living tasks with consequent impacts on social relationships and quality of life. Functional fitness (FF) is generally defined as the ability to perform daily living activities without difficulty (1) and represents a powerful and independent risk factor for premature mortality.(2) However, the decline in FF with aging does not occur at a uniform rate; a significant decrease occurs with advancing age, and the years between 70 and 80 appears to be a critical period of life (3) one of the main consequences of this is the progressive decline in FF, including muscular strength, flexibility, balance, agility, gait velocity, and cardiorespiratory fitness (4). It has been well established that older adults who spend more time in physical activity (PA) or less time in sedentary behaviors exhibit improved FF, Assessing the functional fitness performance of older adults is an essential element in designing effective exercise programs for older adults (5).

PURPOSE:

The purpose of this study was to assessing the functional fitness of older adults do not institutionalized but in day care Center

METHODS:

To be eligible, older adults must be not institutionalized, but users of a day care center, not have cognitive deficits, with value <24 *Mini-Mental State Examination*; no relevant cardiac or muscle-skeletal disease. All subjects provided written informed consent prior to participation.

Forty eight older adults who met the eligible criteria, 79.7±7.1 yrs, body mass index, 27.7±3.5 kg.m^2, were assigned to a specific multicomponent training composed by an aerobic endurance, strength, balance/coordination exercises, 45-min session, for 8 weeks, twice a week..

The physical parameters assed were strength, aerobic endurance, flexibility and agility/balance.

For upper body strength maximal amount of weighted arm curls was measured; for lower body strength the maximal amount of chair-ups were registered. Aerobic endurance was measured as the number of steps performed in 2 minutes (2-min step test).

Upper body flexibility was assessed by back-scratch and lower body flexibility was assessed by sit-and-reach test. For testing agility/balance, an 8-foot up-and-go test was used.

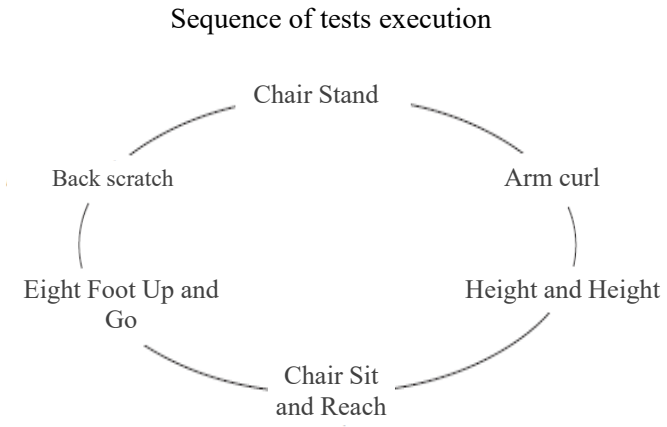
These tests were performed before and after intervention.

Exercise protocols – aerobic exercises, 10 min per session. Strength exercise, 8 exercises, 1-2 sets, 1 min rest, 10-15 reps, for strengthening the major muscles of the body, balance/coordination exercises and flexibility exercise (6).

Funcional Physical Fitness Testing

1. Get up and sit on the shair.
2. Forearm flexion
3. Height and weight
4. Sitting and reaching
5. Eigth foot up and go
6. Reach behind the back
8. Two minutes of step on the spot

METHODS:



RESULTS:

Means and standard deviations values, before and after training for both groups, are displayed in Table 1. Paired and independent Student's t-tests were performed to a significance level of 0.95.

After training: Significant differences ($p<0.05$) were observed for all parameters accessed, demonstrating that intervention has greater improvements than a small one, as we can see at table 1.

Table 1. Mean and standard deviation values for basal and final values of 30-second chair stand, arm curl, chair sit-and-reach, 8-foot up-and-go, back scratch test and 2-minute setp .

	Before	After	*P* *
	n= 48	n= 48	
30-second chair stand (rep)	10.2±1.4	16.1±2,6	**0.028**
Arm curl (rep)	10.9±3.2	18.9±3.5	**0.001**
Chair sit-and-reach (cm)	12,9±11.2	8.1±9.9	**0.026**
Back scratch (cm)	-14.1±9.8	-10.2±6.1	**0.001**
8-foot up-and-go (sec)	9.8±4.7	7.1±2.4	**0.031**
2-minute step (step)	70.5±16	98.3±12.4	**0.001**

* Differences between groups p<0,05

CONCLUSION:

The results demonstrate the importance of older people's participation in physical exercise leading to a lower FF decline .

Despite exercise is often portrayed as inaccessible without expensive gym facilities and a grueling experience for those who do take part, it seem to be an inexpensive, easily-accessible approach to improve health and overall well-being.

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